



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,121	11/25/2003	Kang Soo Seo	1740-000076/US	4390
30/593 7590 06/09/2009 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195				
EXAMINER				
DANG, HUNG Q				
ART UNIT		PAPER NUMBER		
2621				
MAIL DATE		DELIVERY MODE		
06/09/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/720,121

## Applicant(s)

SEO ET AL.

## Examiner

Hung Q. Dang

## Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2009.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-28 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 04/09/2009 have been considered but they are not persuasive.

On pages 10-13, Applicant argues that Taira does not disclose the feature of "prohibiting reproduction path re-change to a most recent previous path after reproduction path change." In response, the Examiner respectfully disagrees. As shown in Fig. 29, the request for angle change is made in a middle of unit AGL 2-2 of the angle #2. This request of reproduction path change cannot be made because it is prohibited to do so at such a point. Instead, reproduction path change or re-change is only allowed at those points that yield seamless switching. This is also described in [0340] as Taira states, "the angle cannot be immediately switched from the second unit of angle #2 (AGL 2-2) to the second unit of angle #3 (AGL 3-2) ..." and "the angle is prohibited from being immediately switched from the second unit of angle #2 (AGL 2-2) to the second unit of angle #3 (AGL 3-2)." Regarding Applicant's arguments about Examiner's assumption that the angle #3 was being played back before it is switched to playback of angle #2 as "the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic," the Examiner respectfully submits that the assumption of "the angle #3 was being played back before it is switched to playback of angle #2" was reasonably and realistically made purely based on the teachings of Taira, and not based on probabilistic speculations. Specifically, if we apply the teachings of Taira as described at least in

paragraph [0340] for the case the request for angle change being made at the middle of AGL 3-3 to switch to angle #2 as shown in Fig. 29, the switching is prohibited at that immediate point so that seamless reproduction can be achieved (as described in [0340]). Therefore, in contrast with Applicant's arguments, Taira clearly discloses the feature of "prohibiting reproduction path re-change to a most recent previous path after reproduction path change." The rejections are thus maintained as previously presented.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-9 and 11-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamane et al. (US Patent 5,784,528) and Taira et al. (US 2003/0113096).**

Regarding claim 1, Yamane et al. disclose a method for recording a data stream having multiple reproduction paths on a recording medium (Fig. 21; column 29, lines 37-42), comprising: checking whether total bit rate of a data stream section pertaining to one path among multiple reproduction paths is lower than a minimum bit rate; assigning an additional bit rate to the data stream section such that the TBR of the data stream section is not lower than said minimum bit rate, if the TBR is lower than the minimum bit rate (column 27, lines 49-54; column 34, lines 50-55; column 35, lines 42-55; column 39, lines 23-67); and recording a multi-path data stream including the data stream section on a recording medium (Fig. 21; column 29, lines 37-42). Yamane et al. also

disclose wherein a data stream section is a section which reproduction path re-change after reproduction path change, based on a buffering condition, causes problems of seamless reproduction not being achieved (column 37, lines 3-10; column 39, lines 47-65).

However, Yamane et al. do not explicitly disclose prohibiting the reproduction path re-change to a most recent previous path.

Taira et al. disclose prohibiting reproduction path change to a most recent previous path (Fig. 29; [0340] – *consider the assumption that the angle #3 was being played back before it is switched to playback of angle #2- also see "Response to Arguments" above*).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate prohibiting reproduction path re-change to a most recent previous path disclosed by Taira et al. into the method disclosed by Yamane et al. to prohibit reproduction path re-change after reproduction path change, based on a buffering condition in order to guarantee seamless reproduction of the video stream. The incorporated feature would enhance playback quality of the recording medium recorded by the method.

Regarding claim 2, Yamane et al. also disclose said minimum bit rate is determined to a value enough to prevent buffer underrun during changes in reproduction path (column 27, lines 49-54; column 34, lines 50-55; column 35, lines 42-55; column 39, lines 23-67).

Regarding claim 3, Yamane et al. also disclose said data stream section is a stream range referred by a plurality of entry points, each entry point pointing to an interval of said data stream section (column 26, lines 8-22; column 28, lines 44-50; column 39, lines 32-40).

Regarding claim 4, Yamane et al. also disclose assigning the additional bit rate to a stream interval pertaining to only one entry point (column 39, lines 55-67).

Regarding claim 5, Yamane et al. also disclose distributing the additional bit rate to a plurality of stream intervals within said data stream section (column 26, lines 8-22; column 28, lines 44-50; column 39, lines 32-40, 55-67).

Regarding claim 6, Yamane et al. also disclose said data stream section whose TBR is to be checked is overlapped with another adjacent data stream section in such a manner that at least one entry point is commonly owned by said two data stream sections (column 26, lines 8-22; column 28, lines 44-50; column 39, lines 32-40; column 38, lines 13-31; Fig. 31; Fig. 33).

Regarding claim 7, Yamane et al. also disclose a jump for path change during reproduction of the recorded multi-path data stream is allowed on every entry point (column 39, lines 5-40; Fig. 40).

Regarding claim 8, Yamane et al. also disclose said data stream section whose TBR is to be checked is not overlapped with another adjacent data stream section (Fig. 40; column 39, lines 32-40).

Regarding claim 9, Yamane et al. also disclose a jump for path change during reproduction of the recorded multi-path data stream is allowed on every data stream section not entry point (Fig. 35; Fig. 36).

Claim 11 is rejected for the same reason as discussed in claims 1 and 2 above.

Claim 12 is rejected for the same reason as discussed in claim 3 above.

Claim 13 is rejected for the same reason as discussed in claim 6 above.

Claim 14 is rejected for the same reason as discussed in claim 7 above.

Claim 15 is rejected for the same reason as discussed in claim 8 above.

Claim 16 is rejected for the same reason as discussed in claim 9 above.

Regarding claim 17, Yamane et al. disclose an apparatus for recording a data stream having multiple reproduction paths on a recording medium (Fig. 21; column 29, lines 37-42), comprising: a driver configured to drive an optical recording device to record data on the recording medium (Fig. 21; column 29, lines 37-42); and a controller configured to control the driver to record the multi-path data stream including an arbitrary data stream section on the recording medium, a total bit rate (TBR) of the data stream section of one path among multiple reproduction paths is not lower than a minimum bit rate that is set to a value enough to prevent an abnormal condition during changes in reproduction path (column 27, lines 49-54; column 34, lines 50-55; column 35, lines 42-55; column 39, lines 23-67). Yamane et al. also disclose wherein a data stream section is a section which reproduction path re-change after reproduction path change, based on a buffering condition, causes problems of seamless reproduction not being achieved (column 37, lines 3-10; column 39, lines 47-65).

However, Yamane et al. do not explicitly disclose prohibiting the reproduction path re-change to a most recent previous path.

Taira et al. disclose prohibiting reproduction path change to a most recent previous path (Fig. 29; [0340] – *consider the assumption that the angle #3 was being played back before it is switched to playback of angle #2 – see also “Response to Arguments” above*).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate prohibiting reproduction path change to a most recent previous path disclosed by Taira et al. into the apparatus disclosed by Yamane et al. to prohibit reproduction path re-change after reproduction path change, based on a buffering condition in order to guarantee seamless reproduction of the video stream. The incorporated feature would enhance the playback quality of the recording medium recorded by the apparatus.

Claim 18 is rejected for the same reason as discussed in claim 3 above.

Claim 19 is rejected for the same reason as discussed in claim 6 above.

Claim 20 is rejected for the same reason as discussed in claim 7 above.

Claim 21 is rejected for the same reason as discussed in claim 8 above.

Claim 22 is rejected for the same reason as discussed in claim 9 above.

Claim 23 is rejected for the same reason as discussed in claim 17 above in further consideration of Yamane et al. also disclosing an apparatus for reproducing the data stream (Fig. 3), comprising: a driver configured to drive an optical reproducing device to reproduce the data recorded on the recording medium (“Reproducing media



driving unit 2004" in Fig. 3); and a controller configured to control the driver to reproduce the multi-path data ("Reproducing controller 2002" in Fig. 3); wherein the controller is configured to perform a jump operation for path change (Fig. 33; Fig. 34; column 38, lines 45-67).

Claim 24 is rejected for the same reason as discussed in claim 3 above in consideration of Yamane et al. also disclosing the controller is configured to control the jump operation by referring to one of entry points (Fig. 34; Fig. 35; Fig. 36).

Claim 25 is rejected for the same reason as discussed in claim 6 above.

Claim 26 is rejected for the same reason as discussed in claim 7 above.

Claim 27 is rejected for the same reason as discussed in claim 8 above.

Claim 28 is rejected for the same reason as discussed in claim 9 above.

**Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamane et al. (US Patent 5,784,528) and Taira et al. (US 2003/0113096) as applied to claims 1-9 and 11-28 above, and further in view of Fujiwara et al. (US Patent 6,683,989).**

Regarding claim 10, see the teachings of Yamane et al. and Taira et al. as discussed in claim 1 above. However, Yamane et al. do not disclose said minimum bit rate is at least 24 Mbps.

Fujiwara et al. disclose a video stream with a bit rate of 24 Mbps (column 2 lines 2-5).

One of ordinary skill in the art at the time of the invention was made would have been motivated the bit rate of 24 Mbps disclosed by Fujiwara et al. into the method disclosed by Yamane et al. and Taira et al. for high-definition video applications.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Q. Dang whose telephone number is (571)270-1116. The examiner can normally be reached on IFT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI Q. TRAN can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hung Q Dang/  
Examiner, Art Unit 2621

/Thai Tran/  
Supervisory Patent Examiner, Art Unit 2621